

IN THE CLAIMS

Please amend the claims as follows:

1. (Currently Amended) An electronic device which receives an image data across a data communications bus shared among a memory, a processing unit, and the electronic device, and converts the image data for outputting therefrom, comprising:

a plurality of conversion units configured to convert the image data;

a control unit configured to control said conversion units, and configured to output and receive the image data to/from the data communication bus;

an image data transfer unit configured to transfer the image data between said control unit and at least two of said conversion units; and

a clock unit configured to provide synchronization between said control unit and to each of the at least two of said conversion units for transfer of the image data,

wherein the control unit outputs the image data after a predetermined number of the image data is transferred via the data communication bus between the memory and the control unit a first time before conversions performed on the image data by the at least two of the conversion units and a second time after the conversions are completed by each of the at least two of the conversion units.

2. (Original) The electronic device as claimed in claim 1, wherein said control unit supplies to one of said conversion units a signal indicative of a start of transfer of the image data when transferring the image data to the one of said conversion units.

3. (Original) The electronic apparatus as claimed in claim 1, wherein said control unit supplies to one of said conversion units a signal indicating that the image data being

transferred is a sub-scan portion when the sub-scan portion of the image data is being transferred to the one of said conversion units.

4. (Original) The electronic apparatus as claimed in claim 1, wherein said control unit supplies to one of said conversion units a signal indicating that the image data being transferred is a main-scan portion when the main-scan portion of the image data is being transferred to the one of said conversion units.

5. (Original) The electronic device as claimed in claim 1, wherein one of said conversion units supplies to said control unit a signal indicative of a start of transfer of the converted image data when transferring the converted image data to said control unit.

6. (Original) The electronic apparatus as claimed in claim 1, wherein one of said conversion units supplies to said control unit a signal indicating that the image data being transferred is a sub-scan portion when the sub-scan portion of the converted image data is being transferred to said control unit.

7. (Original) The electronic apparatus as claimed in claim 1, wherein one of said conversion units supplies to said control unit a signal indicating that the image data being transferred is a main-scan portion when the main-scan portion of the converted image data is being transferred to said control unit.

8. (Original) The electronic device as claimed in claim 1, wherein at least one of said conversion units further includes an interruption unit configured to output an interruption signal to said control unit.

9. (Original) The electronic device as claimed in claim 8, wherein said interruption unit outputs the interruption signal in response to a completion of conversion of image data that is equal to a predetermined amount.

10. (Original) The electronic device as claimed in claim 8, wherein said interruption unit outputs the interruption signal in response to a completion of conversion of image data that is equal in amount to one page of a print sheet.

11. (Original) The electronic device as claimed in claim 8, wherein said interruption unit outputs the interruption signal in response to an error occurring during the conversion of the image data.

12. (Original) The electronic device as claimed in claim 1, wherein said control unit makes one of said conversion units convert the image data according to a request indicative of specifics of conversion that is applied to the image data.

13. (Original) The electronic device as claimed in claim 12, wherein said control unit selects one of said conversion units according to the request so as to make the selected one of said conversion units convert the image data.

14. (Original) The electronic device as claimed in claim 12, wherein the request specifies a format of the image data prior to conversion and a format of the converted image data.

15. (Original) The electronic device as claimed in claim 1, wherein the image data is transferred at a constant rate between said control unit and at least one of said conversion units.

16. (Original) The electronic device as claimed in claim 1, wherein each of said conversion units is a chip.

17. (Original) The electronic device as claimed in claim 1, implemented on a printed circuit board that is connectable to an upper-order apparatus.

18. (Original) The electronic device as claimed in claim 17, wherein the image data is received from the upper-order apparatus, and the converted image data is output to the upper-order apparatus.

19. (Original) The electronic device as claimed in claim 1, wherein said control unit is also configured to convert the image data.

20. (Currently Amended) An image forming apparatus, comprising:
hardware resources configured to form images;
a memory having a program stored therein for causing said hardware resources to form the images;
a central processing unit;
a data communications bus shared among the memory, a processing unit, and an electronic device; and

the electronic device configured to receive image data and convert the image data for outputting therefrom, said electronic device including:

a plurality of conversion units configured to convert the image data;

a control unit configured to control said conversion units, and configured to output

and receive the image data to/from the data communication bus;

an image data transfer unit configured to transfer the image data between said control unit and to each of the at least two of said conversion units; and

a clock unit configured to provide synchronization between said control unit and to each of the at least two of said conversion units for transfer of the image data,

wherein ~~the control unit outputs the image data after a predetermined number of the image data is transferred via the data communication bus between the memory and the control unit a first time before conversions performed on the image data by the at least two of the conversion units and a second time after the conversions are completed by each of the at least two of the conversion units.~~

21. (Original) The image forming apparatus as claimed in claim 20, further comprising a conversion request generating unit which generates a conversion request, wherein said electronic device converts the image data in response to the conversion request.

22. (Original) The image forming apparatus as claimed in claim 21, further comprising a conversion-type specifying unit which generates information about a format of the image data prior to conversion and a format of the image data after the conversion, said information being supplied to said conversion request generating unit.

23. (Original) The image forming apparatus as claimed in claim 22, wherein said conversion request generating unit generates the conversion request responsive to the information supplied from said conversion-type specifying unit.

24. (Original) The image forming apparatus as claimed in claim 20, further comprising a memory-area allocating unit which allocates a memory area in which the image data to be converted by said electronic device and the converted image data are stored.

25. (Currently Amended) A method of converting image data by use of a plurality of conversion units configured to convert the image data, a control unit configured to control the conversion units, and a data communications bus shared among a memory, a processing unit, and the control unit, comprising:

receiving image data from the data communication bus into the control unit;

notifying the control unit of a type of conversion that is to be performed with respect to the image data;

selecting, by the control unit, at least two of the conversion units in response to the notified type of conversion;

supplying, from the control unit to each of the selected at least two of the conversion units, a clock signal that provides synchronization for transfer of the image data;

supplying, from the control unit to each of the selected at least two of the conversion units, a signal indicative of a start of transfer of the image data;

transferring the image data from the control unit to each of the selected at least two of the conversion units; and

~~outputting the image data to the data communications bus after a predetermined number of the image data via the data communication bus between the memory and the~~

control unit a first time before conversions performed on the image data by the at least two of the conversion units and a second time after the conversions are completed by each of the at [[lest]] least two of the conversion units.

26. (Previously Presented) The method as claimed in claim 25, further comprising:
transmitting, from the selected one of the conversion units to the control unit, a clock signal that provides synchronization for transfer of converted image data; and
transferring the converted image data from the selected one of the conversion units to the control unit.

27. (Currently Amended) A method of converting image data by use of a plurality of conversion units configured to convert the image data, a data communications bus shared among a memory, a processing unit, and a control unit, the control unit configured to control the conversion units, and a conversion request generating unit configured to request conversion, comprising:

receiving image data from the data communication bus into the control unit;
generating, by the conversion request generating unit, information about the type of conversion that is to be performed with respect to the image data;
instructing, by the conversion request generating unit, the control unit to perform the conversion based on the information;
selecting, by the control unit, at least two of the conversion units in response to the notified type of conversion;
supplying, from the control unit to each of the selected at least two of the conversion units, a clock signal that provides synchronization for transfer of the image data;

supplying, from the control unit to each of the selected at least two of the conversion units, a signal indicative of a start of transfer of the image data;

transferring the image data from the control unit to each of the selected at least two of the conversion units; and

transferring outputting the image data to the data communications bus after a predetermined number of the image data is transferred via the data communication bus between the memory and the control unit a first time before conversions performed on the image data by the at least two of the conversion units and a second time after the conversions are completed by each of the at least two of the conversion units.

28. (Currently Amended) The method as claimed in claim 27, further comprising:
~~a step of~~ notifying, by the control unit, the conversion request generating unit of a completion of the conversion of the image data.